

Ft. Collins, Colorado

LIMS Version: 6.740

Page 1 of 1

Tuesday, February 03, 2015

Bob Evans CH2M HILL Plateau Remediation Company 2420 Stevens Center Richland, WA 99352

Re: ALS Workorder: 1501055

Project Name: 200W Pump & Treat - FBR Micronutrient Analysis - Water

Project Number: F13-018

Dear Mr. Evans:

Three water samples were received from CH2M HILL Plateau Remediation Company, on 1/7/2015. The samples were scheduled for the following analysis:

Metals

The results for these analyses are contained in the enclosed reports.

Jels -

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental

Julie Ellingson

Project Manager

JME/jme

Enclosure(s):

ADDRESS 225 Commerce Drive, Fort Collins, Colorado, USA 80524 | PHONE +1 970 490 1511 | FAX +1 970 490 1522 ALS GROUP USA, CORP. Part of the ALS Laboratory Group An ALS Limited Company

ALS is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Laborate	ory Certifications
Accreditation Body	License or Certification Number
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Connecticut (CT)	PH-0232
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
L-A-B (DoD ELAP/ISO 170250)	L2257
Maryland (MD)	285
Missouri	175
Nebraska	NE-OS-24-13
Nevada (NV)	CO000782008A
New Jersey (NJ)	CO003
North Dakota (ND)	R-057
Oklahoma	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington	C1280

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1501055

Client Name: CH2M HILL Plateau Remediation Company

Client Project Name: 200W Pump & Treat - FBR Micronutrient Analysis - Water

Client Project Number: F13-018
Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B304R6	1501055-1		WATER	05-Jan-15	12:50
B304R1	1501055-2		WATER	05-Jan-15	12:16
B304P6	1501055-3		WATER	05-Jan-15	12:00

LIMS Version: 6,730

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Coludi	y U,	20	ı

£	CH2MHill Plateau Remediation Company	CHAIN OF	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	QUEST	F13-018-176	PAGE 1 OF 1
ECTOR	J.R. AguitariCHPRC	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7C	DATA
LING ,	LING LOCATION 7, Effluent Tank, Valve V07-Y80D	PROJECT DESIGNATION 200W Pump & Treat - FBR Micronutrient Analysis - Water	ent Analysis - Water	SAF NO. F13-018	AIR QUALITY	15 Days / 15 Days
HEST NO.	10.	FIELD LOGBOOK NO. HNF-N- 491-9 124	ACTUAL SAMPLE DEPTH N/A	COA 303110	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
PED TO	F			BILL OF LADING/AIR BILL NO.	0. 7724 7530 6840	30 6840
*	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Badicartive Material at	N	HNO3 to pH		\	
Ē Ē	concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous	HOLDING TIME	6 Months	~	1cn 1055	
P	Goods Regulations but are not releasable per DOE Order 458.1.	TYPE OF CONTAINER	d/b	_7		
Siment		NO. OF CONTAINER(S)				
etation ter		VOLUME	500mL			
8 4	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
			OTT IL			

SAMPLING LO

COLLECTOR

ICE CHEST NO

289-T, Effluen

ALS Environ

MATRIX*

SHIPPED TO

1

1250

SAMPLE TIME

SAMPLE DATE 1-5-15

MATRIX*

SAMPLE NO.

V=Vegetation W=Water WI=Wipe X=Other

L=Lquid 0=0il S=Soil SE=Sediment T=Tissue

A=Air DL=Drum Liquids DS=Drum Solids

WATER

B304R6

and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-14-(0.45µm) filter while in the field. The 200 Area S&GRP Characterization Filtering shall be performed by SGRP Field Sampling Services using a SPECIAL INSTRUCTIONS JAN 0 5 2015 0465

DATE/TIME

SSUTT! K. Eccaning By Stone In RECEIVED BY/STORED IN

RELINQUISHED BY/REMOVED FROM

J.R. AgullanCHPRC

CHAIN OF POSSESSION

SELYQUISHED BY/REMOVED FROM

DATE/TIME

RELINQUISHED BY/REMOVED-FBOM K.C. Patterson

RELINGUESING STREM

SIGN/ PRINT NAMES

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FEDEX

JAN 0 6 2015/130

RECEIVED BY/STORED IN

DATE/TIME

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RELINQUISHED BY/REMOVED FROM

RELINQUISHED BY/REMOVED FROM

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

(1) 6020_METALS_ICPMS: COMMON {Aluminum, Chromium, Cobalt, 6020_METALS_ICPMS: COMMON Copper, Molybdenum, Selenium}; HAN 0 6 2015 020207 DATE/TIME (1) 6

6010_METALS_ICP: COMMON (Add-on) {Boron, Phosoporus}; (Add-on) {Arsenic, Mangagese, Nickel, Strontium, Zigc}; (6010_METALS_ICP: COMMON {Calcium, Irgn, Magnesium}; PATE/TIME DATE/TIME

DISPOSED BY DATE/TIME

DATE/TIME

A-6003-618 (REV 2)

PRINTED ON 12/15/2014

PISPOSITION

DISPOSAL METHOD

KINAL SAMPLE

RECEIVED BY

ABORATORY

of SECTION

February	/ 3,	20	15
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A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN O	OF CUSTODY/SAMPLE ANALYSIS REQUEST	QUEST	F13-018-171	PAGE 1 OF 1
COLLECTOR J.R. Aguitan'CHPRC	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7C	DATA
SAMPLING LOCATION 289-T, FBR-B Effluent, valve V25-Y40B1	PROJECT DESIGNATION 200W Pump & Treat - FBR Micronutrient Analysis - Water	rient Analysis - Water	SAF NO. F13-018	AIR QUALITY	15 Days / 15 Days
ICE CHEST NO.	FIELD LOGBOOK NO.	Para NIA	COA 303110	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO ALS Environmental	OFFSITE PROPERTY NO. (1)		BILL OF LADING/AIR BILL NO.	1724 7530 6840	30 6840
MATRIX* POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	HNO3 to pH			,

1501051

6 Months

HOLDING TIME

5

TYPE OF CONTAINER

Goods Regulations but are not releasable per concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous

DOE Order 458.1

L=Uquid 0=0il S=Soil SE=Sediment

DL=Drum Liquids DS=Drum Solids

*Contains Radioactive Material at

FILTER

SAMPLE DATE SAMPLE TIME

MATRIX*

SAMPLE NO.

WATER

0

B304R1

51-5-1

SEE LTEM (1)
IN SPECIAL
INSTRUCTIONS

SAMPLE ANALYSIS

SPECIAL HANDLING AND/OR STORAGE

V=Vegetation W=Water

F=Tissue

WI=Wipe x=Other

500mL

VOLUME

NO. OF CONTAINER(S)

and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-14-Filtering shall be performed by SGRP Field Sampling Services using a (0.45µm) filter while in the field. The 200 Area S&GRP Characterization SPECIAL INSTRUCTIONS

SIGN/ PRINT NAMES

CHAIN OF POSSESSION

(1) 6020_METALS_ICPMS: COMMON {Aluminum, Chromium, Cobalt, Copper, Molybdenum, Selenium}; 6020_METALS_ICPMS: COMMON 6010_METALS_ICP: COMMON {Calcium, Iron, Magnesium}; 6010_METALS_ICP: COMMON (Add-on) {Boron, Phosphorus}; DATE/TIME Add-on) {Arsenic, Manganese, Nickel, Strontium, Zinc}; TRVL- 14-JAN 0 5 2015 1405 Chey/Trinbledate/TIME LAN 0 6 2015/THE DATE/TIME DATE/TIME DATE/TIME RECEIVED BY STORED IN RECEIVE AND FISHED IN RECEIVED BY/STORED IN RECEIVED BY STONED IN RECEIVED BY/STORED IN RECEIVED BY/STORED IN RECEIVED BY/STORED IN SSUHI EEDEX JAN 0 52015 14105 " JAN 0 6 2015 GZZZ DATE/TIME DATE/TIME DATE/TIME DISPOSAL METHOD RECEIVED BY RELINQUISHED BY REMOVED FROM J.R. AguilanCHPRD RELINQUISHED BY/REMOVED FROM REINQUISHED BY/REMOVED FROM RELINQUISHED BY/REMOVED FROM SEMPOUSHED BY/REMOVED FR REUNPUSHEPSBAR O SECTION BANAL SAMPLE JABORATORY SECTION DISPOSITION

PRINTED ON 12/15/2014

L1501055	February 3, 2015

CHZ	MHill Plateau	CH2MHill Plateau Remediation Company		CHAIN O	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	REQUEST	F13-018-166	PAGE 1 OF 1
COLLECTOR	J.R. AguitanCHPRC	O Ma	COMPANY CONTACT EVANS, RT	ACT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7C	DATA
SAMPLING LOCATION 289-T, FBR-A Effluent, v	SAMPLING LOCATION 289-T, FBR-A Effluent, valve V25-Y40A1	V25-Y40A1	PROJECT DESIGNATION 200W Pump & Treat - FBR	NATION eat - FBR Micronut	PROJECT DESIGNATION 200W Pump & Treat - FBR Micronutrient Analysis - Water	SAF NO. F13-018	AIR QUALITY	15 Days / 15 Days
ICE CHEST NO.	. S. C.	10.	FIELD LOGBOOK NO. HNF-N-491-9/R, 124	491-9/R. 1.	ACTUAL SAMPLE DEPTH	COA 303110	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO ALS Environmental	nmental		OFFSITE PROPERTY NO.	531/		BILL OF LADING/AIR BILL NO.	7724 7530 6840	040
MATRIX* A=Air	POSSIBLE S	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioartive Material at	PRESERVATION	ATION	HNO3 to pH			
DL=Drum Uquids DS=Drum	concentratio	concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous	HOLDING TIME	G TIME	6 Months		N	K01055
Solids L=Liquid O=Oil	Goods Regulation DOE Order 458.1.	Goods Regulations but are not releasable per DOE Order 458.1.	TYPE OF CONTAINER	WTAINER	d/b			
S=Soil SE=Sediment			NO. OF CONTAINER(S)	TAINER(S)	-			
l = l issue V≃Vegetation W=Water			VOLUME	JME	500mL			
WI=Wipe X=Other	SPECIAL HA	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	NALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
SAMP	SAMPLE NO.	MATRIX*	SAMPLE DATE SAMPLE TIME	SAMPLE TIME				ASL
B304P6	62	WATER	1-5-15	Boo	7	FILTER		.15(

and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-14-(0.45µm) filter while in the field. The 200 Area S&GRP Characterization Filtering shall be performed by SGRP Field Sampling Services using a SPECIAL INSTRUCTIONS 207 JAN 0 5 2013 1405

DATE/TIME

DATE/TIME

JAN 0 6 2015 TIME RECEIVED BY/STORED IN DATE/TIME PERPEKYSTORED IN ANI O 6 2015

IAN P 6 2015/130 DATE/TIME

SSU# 1

RELINQUISHED BY/REMOVED FROM

CHAIN OF POSSESSION

ВВ фирмер вулитемомер FROM

J.R. Agullanton Sic.

K. CELPAGHISPERRY/REMOMES FROM

/REMOVED FROM

SIGN/ PRINT NAMES

(1) 6020_METALS_ICPMS: COMMON {Aluminum, Chromium, Cobalt, Copper, Molybdenum, Selenium); 6020_METALS_ICPMS: COMMON 6010_METALS_ICP: COMMON {Calcium, Iron, Magnesium}; 6010_METALS_ICP: COMMON (Add-on) {Boron, Phosphorus}; (Add-on) {Arsenic, Manganese, Nickel, Strontium, Zinc}; JAN 0 6 2015070C

2 Cheryl Tr. mbk DATE/TIME

RECEIVED BY/STORED 134

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DATE/TIME

TRVL- 14-

DATE/TIME

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DATE/TIME

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7

DATE/TIME

A-6003-618 (REV 2)

PRINTED ON 12/15/2014

SECTION SAMPLE FISPOSITION

DISPOSAL METHOD

RECEIVED BY

ABORATORY SECTION



ALS Environmental - Fort Collins CONDITION OF SAMPLE UPON RECEIPT FORM

Does this project require any special handling in addition to standard ALS procedures? YES NO	Client: CH2MHILL PRC Workorder No: 150	Ins	5	
1. Does this project require any special handling in addition to standard ALS procedures? 2. Are custody seals on shipping containers intact? 3. Are Custody seals on sample containers intact? 4. Sthere a COC (Chain-of-Custody) present or other representative documents? 5. Are the COC (Tohain-of-Custody) present or other representative documents? 6. Is the COC in agreement with samples received? (IDs. dates, times, no. of samples, no. of containers, marrix, requested analyses, etc.) 7. Were airbills / shipping documents present and/or removable? 8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles) 8. Are all aqueous non-preserved samples pH 4-9? 9. Are all aqueous non-preserved samples pH 4-9? 10. Is there sufficient sample for the requested analyses? 11. Were all samples placed in the proper containers for the requested analyses? 12. Are all samples within holding times for the requested analyses? 13. Were all samples requiring no headspace (VOC, GRO, RSK/MEE, Rs CN/S, radon) 14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rs CN/S, radon) 15. Do any water samples contain sediment? 16. Were the samples shipped on ice? 17. Were cooler temperatures measured at 0.1-6.0°C? 18. and used: 19. Are all sample containers in the proper containers for the requested analyses? 19. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rs CN/S, radon) 19. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rs CN/S, radon) 19. Were all samples contain sediment? 19. Amount of sediment: 19. Autount of sediment: 20. Are all samples contain sediment? 21. Amount of sediment: 22. Are all samples contain sediment? 23. Are all samples containers sediment? 24. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rs CN/S, radon) 19. Are all samples containers received intact? 19. No. of custody seals on cooler: 22. Are all samples required the samples of the requested analyses? 24. Are all samples required to the requested analyses?	_	Date:	1-7-	15
2. Are custody seals on shipping containers intact? 3. Are Custody seals on sample containers intact? 4. Is there a COC (Chain-of-Custody) present or other representative documents? 5. Are the COC and bottle labels complete and legible? 6. Is the COC and bottle labels complete and legible? 6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.) 7. Were airbills / shipping documents present and/or removable? 8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles) 9. Are all aqueous non-preserved samples pH 4-9? 10. Is there sufficient sample for the requested analyses? 11. Were all samples within holding times for the requested analyses? 12. Are all samples within holding times for the requested analyses? 13. Were all samples containers received intact? (not broken or leaking, etc.) 14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? 15. Do any water samples contain sediment? 15. Do any water samples contain sediment? 16. Were the samples shipped on ice? 17. Were cooler temperature decreased and within DOT acceptance criteria. (ES) NO / NA. (If no, see Form 008.) 18. Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #I AND #16. 18. Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #I AND #16.			YES	(NO)
Are Custody seals on sample containers intact? Is there a COC (Chain-of-Custody) present or other representative documents? Are the COC and bottle labels complete and legible? Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.) Were airbills / shipping documents present and/or removable? Were airbills / shipping documents present and/or removable? Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles) N/A YES NC Are all aqueous non-preserved samples pH 4-9? Is there sufficient sample for the requested analyses? Were all samples placed in the proper containers for the requested analyses? Were all samples within holding times for the requested analyses? Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: green pea green pea Jo Do any water samples contain sediment? Amount of sediment: dusting moderate heavy Were the samples shipped on ice? YES NO Cooler #: Temperature ("C: Arms No. of custody seals on cooler: Cooler #: Temperature ("C: Arms No. of custody seals on cooler: Background µt/hr reading: 13 Background µt/hr reading: 14 Were exceeded under reading: 15 YES NO (NA (If no, see Form 008) Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT#1 AND #16.		NONE		NO
s Is there a COC (Chain-of-Custody) present or other representative documents? Are the COC and bottle labels complete and legible? Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.) Were airbills / shipping documents present and/or removable? Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles) Are all aqueous non-preserved samples pH 4-9? Is there sufficient sample for the requested analyses? Were all samples placed in the proper containers for the requested analyses? Were all samples within holding times for the requested analyses? Were all samples within holding times for the requested analyses? Were all samples containers received intact? (not broken or leaking, etc.) Were all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: Amount of sediment: dusting moderate heavy To Do any water samples contain sediment? Amount of sediment: dusting moderate heavy Mover the samples shipped on ice? Were the samples shipped on ice? Temperature (*C): Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #I AND #16. Mapplicable, was the client contacted? YES / NO NA Contact: Project Manager Signature / Date: ### Option ### Signature / Date /		NONE	(YES)	NO
5 Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.) 7 Were airbills / shipping documents present and/or removable? 8 Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles) 9 Are all aqueous non-preserved samples pH 4-9? 10 Is there sufficient sample for the requested analyses? 11 Were all samples placed in the proper containers for the requested analyses? 12 Are all samples placed in the proper containers for the requested analyses? 13 Were all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) 14 Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) 15 Headspace free? Size of bubble:< green pea green pea 16 Do any water samples contain sediment? 17 Amount of sediment: dusting moderate heavy 18 Were the samples shipped on ice? 19 Were cooler temperatures measured at 0.1-6.0°C?			(YÉS)	NO
containers, matrix, requested analyses, etc.) 7 Were airbills / shipping documents present and/or removable? 8 Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles) NA (YES) NC 9 Are all aqueous anon-preserved samples pH 4-9? 10 Is there sufficient sample for the requested analyses? 11 Were all samples placed in the proper containers for the requested analyses? 12 Are all samples within holding times for the requested analyses? 13 Were all samples ontainers received intact? (not broken or leaking, etc.) 14 Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) 15 Headspace free? Size of bubble: < green pea > green pea 16 Were the samples contain sediment? Amount of sediment: dusting moderate heavy 17 Were cooler temperatures measured at 0.1-6.0°C?	5 Are the COC and bottle labels complete and legible?		YES	NO
Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles) N/A YES NO Are all aqueous non-preserved samples pH 4-9? N/B YES NO Are all aqueous non-preserved samples pH 4-9? It were all samples to the requested analyses? N/B YES NO Are all samples placed in the proper containers for the requested analyses? Are all samples within holding times for the requested analyses? Are all samples within holding times for the requested analyses? Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: < green pea > green pea Do any water samples contain sediment? Amount of sediment: dusting moderate heavy Mount of sediment: dusting moderate heavy Were ever the samples shipped on ice? Cooler #:			YES	NO
9 Are all aqueous non-preserved samples pH 4-9? 10 Is there sufficient sample for the requested analyses? 11 Were all samples placed in the proper containers for the requested analyses? 12 Are all samples within holding times for the requested analyses? 13 Were all samples containers received intact? (not broken or leaking, etc.) 14 Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) 15 Headspace free? Size of bubble: < green pea > green pea 16 Do any water samples contain sediment? 17 Amount of sediment: dusting moderate heavy 18 Were the samples shipped on ice? 19 Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4 RAD YES NO Cooler #: Temperature (°C):	Were airbills / shipping documents present and/or removable?	DROP OFF	YES	NO
10. Is there sufficient sample for the requested analyses? YES NC	8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	YES	NO
Were all samples placed in the proper containers for the requested analyses? Are all samples within holding times for the requested analyses? Were all sample containers received intact? (not broken or leaking, etc.) Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: < green pea > green pea Joany water samples contain sediment? Amount of sediment: dusting moderate heavy Mol. Were the samples shipped on ice? Were cooler temperatures measured at 0.1-6.0°C? (R gun used*: #2 #4 RAD ONLY VES NO Cooler #:	Are all aqueous non-preserved samples pH 4-9?	N/A)	YES	NO
Are all samples within holding times for the requested analyses? Were all sample containers received intact? (not broken or leaking, etc.) Were all sample containers received intact? (not broken or leaking, etc.) Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: < green pea > green pea Jo only water samples contain sediment? Amount of sediment: dusting moderate heavy Mount of sediment: dusting moderate heavy More cooler the samples shipped on ice? Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4 RAD ONLY VES NO Cooler #: Temperature (°C):	10. Is there sufficient sample for the requested analyses?		YES	NO
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Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: < green pea > green pea	12 Are all samples within holding times for the requested analyses?		(YES)	NO
headspace free? Size of bubble: < green pea > green gea > green > green > green > green pea > green > gree	Were all sample containers received intact? (not broken or leaking, etc.)		YES	NO
Amount of sediment:dustingmoderateheavy N/A YES NO 10. Were the samples shipped on ice? YES NO 11. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4 RAD YES NO 12. Cooler #:		N/A	YES	NO
Were cooler temperatures measured at 0.1-6.0°C? R gun used*: #2 #4 RAD YES NO		N/A	YES	NO
Cooler #: Temperature (°C): No. of custody seals on cooler: Acceptance Information External μR/hr reading: Were external μR/hr readings ≤ two times background and within DOT acceptance criteria? YES NO / NA (If no, see Form 008.) Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.	16. Were the samples shipped on ice?		YES	NO
Temperature (°C): No. of custody seals on cooler: Dot Survey Acceptance Information External µR/hr reading: Background µR/hr reading: Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES NO / NA (If no. see Form 008) Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16. If applicable, was the client contacted? YES / NO NA contact: Date/Time: Project Manager Signature / Date: '/R Gun #2: Oakton, SN 29922500201-0068	17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4	1 1	YES	NO
Project Manager Signature / Date:	Temperature (°C): Amb No. of custody seals on cooler: DOT Survey/Acceptance Information External μR/hr reading: Background μR/hr reading: Were external μR/hr readings ≤ two times background and within DOT acceptance criteria? YES NO / NA (If no, see		ND #16.	
Form 201:74 vis (06/03/2012)	Project Manager Signature / Date: 1/0/15	_ Date/Tin	ne:	



- After printing this label:

 1 Use the 'Print' button on this page to print your label to your laser or inkjet printer.

 2 Fold the printed page along the horizontal line.
- Place tabel in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in

excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide Written claims must be filed within strict time limits, see current FedEx Service Guide.



Metals Case Narrative

CH2M HILL Plateau Remediation Company

200W Pump & Treat – FBR Micronutrient Analysis - Water– F13-018

Work Order Number: 1501055

- 1. This report consists of 3 water samples.
- 2. The samples were received intact at ambient temperature by ALS on 01/07/15.
- 3. The samples were to be analyzed for dissolved metals. The samples had been filtered prior to receipt, and had a pH less than 2 upon receipt.
- 4. The samples were prepared and analyzed based on SW-846, 3rd Edition procedures.
 - For analysis by Trace ICP and ICP-MS, the samples were digested following method 3005A and the current revision of SOP 806.
- 5. Analysis by Trace ICP followed method 6010B and the current revision of SOP 834.
 - Analysis by ICP-MS followed method 6020A and the current revision of SOP 827.
- All standards and solutions are NIST traceable and were used within their recommended shelf life.
- 7. The samples were prepared and analyzed within the established hold times.

All in house quality control procedures were followed, as described below.

- 8. General quality control procedures.
 - A preparation (method) blank and laboratory control sample were digested and analyzed with the samples in each digestion batch.
 - The preparation (method) blank associated with each digestion batch was below the reporting limit for the requested analytes.



- All laboratory control sample criteria were met.
- All initial and continuing calibration blanks were below the reporting limit for the requested analytes.
- All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes.
- The interference check samples and high standard readbacks associated with Method 6010B were within acceptance criteria.
- The interference check samples associated with Method 6020A were analyzed.
- 9. Matrix specific quality control procedures.

Sample 1501055-1 was designated as the quality control sample for the ICP-MS analysis. Sample 1501024-1 was designated as the quality control sample for the Trace ICP analysis. Results for the shared quality control samples are included at the client's request.

Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for accuracy were met.
- A sample duplicate and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for precision were met.
- A serial dilution was analyzed with each ICP batch. All acceptance criteria were met.

10. It is a standard practice that samples for ICP-MS are analyzed at a dilution.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Jill Latelle Inorganics Primary Data Reviewer __<u>1/31/15</u> Date

porganics Final Data Reviewer

2/3/15 Date



Inorganic Data Reporting Qualifiers

The following qualifiers are used by the laboratory when reporting results of inorganic analyses.

- Result qualifier -- A "B" is entered if the reported value was obtained from a reading that was
 less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL).
 If the analyte was analyzed for but not detected a "U" is entered. For samples, negative
 values are reported as non-detects ("U" flagged). For blanks, if the absolute value of the
 negative value is above the MDL and below the reporting limit, then the result is "B" flagged.
- QC qualifier -- Specified entries and their meanings are as follows:
 - E The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
 - M Duplicate injection precision was not met.
 - N Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
 - Z Spiked recovery not within control limits. An explanatory note may be included in the narrative.
 - * Duplicate analysis (relative percent difference) not within control limits.
 - S SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Dissolved ICP Metals

Method SW6010B Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1501055

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - FBR Micronutrient Analysis - Water F13-0

Field ID: B304R6
Lab ID: 1501055-1

Analysis ReqCode: B

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 05-Jan-15

Date Extracted: 12-Jan-15
Date Analyzed: 13-Jan-15

Prep Batch: IP150112-4

QCBatchID: IP150112-4-1 Run ID: IP150113-2A6 Cleanup: NONE

Cleanup: NONE
Basis: As Received

Analyst: Brent A. Stanfield
Sample Aliquot: 50 ml

Final Volume: 50 ml
Result Units: UG/L
Clean DF: 1

Prep Method: SW3005 Rev A File Name:

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	52	30	4.8		
7440-70-2	CALCIUM	1	53000	1000	88		
7439-89-6	IRON	1	29	50	18	В	
7439-95-4	MAGNESIUM	1	19000	750	91		
7723-14-0	PHOSPHORUS	1	1100	50	17		

Data Package ID: ip1501055-1

Date Printed: Saturday, January 31, 2015

Dissolved ICP Metals

Method SW6010B Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1501055

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - FBR Micronutrient Analysis - Water F13-0

Field ID: B304R1 Lab ID: 1501055-2

Analysis ReqCode: B

Sample Matrix: WATER
% Moisture: N/A
Pate Collected: 05- Jap-15

Date Collected: 05-Jan-15
Date Extracted: 12-Jan-15
Date Analyzed: 13-Jan-15

Prep Method: SW3005 Rev A

Prep Batch: IP150112-4

QCBatchID: IP150112-4-1 Samp Run ID: IP150113-2A6 Fir Cleanup: NONE Ro Basis: As Received

File Name:

Analyst: Brent A. Stanfield
Sample Aliquot: 50 ml
Final Volume: 50 ml

Result Units: UG/L Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	51	30	4.8		
7440-70-2	CALCIUM	1	54000	1000	88		
7439-89-6	IRON	1	41	50	18	В	
7439-95-4	MAGNESIUM	1	19000	750	91		
7723-14-0	PHOSPHORUS	1	580	50	17		

Data Package ID: ip1501055-1

Date Printed: Saturday, January 31, 2015

ALS Environmental -- FC

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Dissolved ICP Metals

Method SW6010B Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1501055

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - FBR Micronutrient Analysis - Water F13-0

Field ID: B304P6 Lab ID: 1501055-3

Analysis ReqCode: B

Sample Matrix: WATER
% Moisture: N/A

Date Collected: 05-Jan-15
Date Extracted: 12-Jan-15
Date Analyzed: 13-Jan-15

Prep Method: SW 3005 Rev A

Prep Batch: IP150112-4

QCBatchID: IP150112-4-1 Run ID: IP150113-2A6 Cleanup: NONE

Cleanup: NONE
Basis: As Received
File Name:

Analyst: Brent A. Stanfield

 Sample Aliquot:
 50 ml

 Final Volume:
 50 ml

 Result Units:
 UG/L

 Clean DF:
 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	46	30	4.8		
7440-70-2	CALCIUM	1	52000	1000	88		
7439-89-6	IRON	1	68	50	18		
7439-95-4	MAGNESIUM	1	18000	750	91		
7723-14-0	PHOSPHORUS	1	360	50	17		

Data Package ID: ip1501055-1

Date Printed: Saturday, January 31, 2015

Dissolved ICPMS Metals

Method SW6020A Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1501055

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - FBR Micronutrient Analysis - Water F13-0

Field ID: B304R6 Lab ID: 1501055-1 Sample Matrix: WATER
% Moisture: N/A
Date Collected: 05-Jan-15

Date Extracted: 20-Jan-15

Date Analyzed: 26-Jan-15

Prep Method: SW 3005 Rev A

Prep Batch: IP150120-2

QCBatchID: IP150120-2-1 Run ID: IM150126-10A3 Cleanup: NONE Basis: As Received File Name: 017SMPL_

 Analyst: Brent A. Stanfield

 Sample Aliquot:
 50 ml

 Final Volume:
 50 ml

 Result Units:
 UG/L

 Clean DF:
 1

Analysis ReqCode: Al

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	43	50	17	В	
7440-38-2	ARSENIC	10	0.3	2	0.25	В	
7440-47-3	CHROMIUM	10	3.7	10	1.3	В	
7440-48-4	COBALT	10	1.8	1	0.17		
7440-50-8	COPPER	10	5.9	8	2.8	В	
7439-96-5	MANGANESE	10	8.5	5	0.52		
7439-98-7	MOLYBDENUM	10	26	1	0.43		
7440-02-0	NICKEL	10	3.9	5	1.4	В	
7782-49-2	SELENIUM	10	2.3	1	0.54		
7440-24-6	STRONTIUM	10	220	1	0.32		
7440-66-6	ZINC	10	6.8	20	6.8	U	

Data Package ID: im1501055-1

Date Printed: Saturday, January 31, 2015 ALS Environmental -- FC

Dissolved ICPMS Metals

Method SW6020A Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1501055

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - FBR Micronutrient Analysis - Water F13-0

Field ID: B304R1 Lab ID: 1501055-2

Analysis ReqCode: Al

Sample Matrix: WATER
% Moisture: N/A

Date Collected: 05-Jan-15 Date Extracted: 20-Jan-15 Date Analyzed: 26-Jan-15

Prep Method: SW 3005 Rev A

Prep Batch: IP150120-2

QCBatchID: IP150120-2-1 Run ID: IM150126-10A3 Cleanup: NONE

Basis: As Received File Name: 022SMPL_

Analyst: Brent A. Stanfield Sample Aliquot: 50 ml

Final Volume: 50 ml Result Units: UG/L Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	20	50	17	В	
7440-38-2	ARSENIC	10	1.5	2	0.25	В	
7440-47-3	CHROMIUM	10	3.5	10	1.3	В	
7440-48-4	COBALT	10	16	1	0.17		
7440-50-8	COPPER	10	2.8	8	2.8	U	
7439-96-5	MANGANESE	10	69	5	0.52		
7439-98-7	MOLYBDENUM	10	25	1	0.43		
7440-02-0	NICKEL	10	5.8	5	1.4		
7782-49-2	SELENIUM	10	2.3	1	0.54		
7440-24-6	STRONTIUM	10	230	1	0.32		
7440-66-6	ZINC	10	6.8	20	6.8	U	

Data Package ID: im1501055-1

Date Printed: Saturday, January 31, 2015 ALS Environmental -- FC

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Dissolved ICPMS Metals

Method SW6020A Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1501055

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - FBR Micronutrient Analysis - Water F13-0

Field ID: B304P6 Lab ID: 1501055-3 Sample Matrix: WATER % Moisture: N/A Date Collected: 05-Jan-15

Date Extracted: 20-Jan-15
Date Analyzed: 26-Jan-15

Prep Batch: IP150120-2

QCBatchID: IP150120-2-1 Run ID: IM150126-10A3 Cleanup: NONE Basis: As Received

 Analyst: Brent A. Stanfield

 Sample Aliquot:
 50 ml

 Final Volume:
 50 ml

 Result Units:
 UG/L

 Clean DF:
 1

Analysis ReqCode: Al

Prep Method: SW3005 Rev A File Name: 023SMPL_

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	26	50	17	В	
7440-38-2	ARSENIC	10	0.85	2	0.25	В	
7440-47-3	CHROMIUM	10	6.8	10	1.3	В	
7440-48-4	COBALT	10	17	1	0.17		
7440-50-8	COPPER	10	2.8	8	2.8	U	
7439-96-5	MANGANESE	10	78	5	0.52		
7439-98-7	MOLYBDENUM	10	26	1	0.43		
7440-02-0	NICKEL	10	7.4	5	1.4		
7782-49-2	SELENIUM	10	2.4	1	0.54		
7440-24-6	STRONTIUM	10	230	1	0.32		
7440-66-6	ZINC	10	6.8	20	6.8	U	

Data Package ID: im1501055-1

Date Printed: Saturday, January 31, 2015 ALS Environmental -- FC

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Sample Aliquot:

Final Volume:

Result Units: UG/L

Clean DF:

50 ml

50 ml

ICP Metals

Method SW6010B Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1501055

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - FBR Micronutrient Analysis - Water F13-0

Lab ID: IP150112-4MB

Sample Matrix: WATER
% Moisture: N/A

% Moisture: N/A QCBatchID: IP150112-4-1

Date Collected: N/A Run ID: IP150113-2A6

Date Extracted: 12-Jan-15 Cleanup: NONE

Prep Batch: IP150112-4

Date Analyzed: 13-Jan-15

Basis: N/A

File Name:

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	4.8	30	4.8	U	
7440-70-2	CALCIUM	1	88	1000	88	U	
7439-89-6	IRON	1	18	50	18	U	
7439-95-4	MAGNESIUM	1	91	750	91	U	
7723-14-0	PHOSPHORUS	1	17	50	17	U	

Data Package ID: ip1501055-1

Date Printed: Saturday, January 31, 2015

ICP Metals

Method SW6010B Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1501055

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - FBR Micronutrient Analysis - Water F13-0

Lab ID: IP150112-4LCS

 Sample Matrix: WATER
 Prep Batch: IP150112-4
 Sample Aliquot:
 50 ml

 % Moisture: N/A
 QCBatchID: IP150112-4-1
 Final Volume:
 50 ml

 Date Collected: N/A
 Run ID: IP150113-2A6
 Result Units: UG/L

 Date Extracted: 01/12/2015
 Cleanup: NONE
 Clean DF:
 1

Date Analyzed: 01/13/2015 Basis: N/A
Prep Method: SW3005A File Name:

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7440-42-8	BORON	1000	977	30		98	80 - 120%
7440-70-2	CALCIUM	40000	36200	1000		90	80 - 120%
7439-89-6	IRON	1000	1010	50		101	80 - 120%
7439-95-4	MAGNESIUM	40000	37000	750		93	80 - 120%
7723-14-0	PHOSPHORUS	10000	9630	50		96	80 - 120%

Data Package ID: ip1501055-1

Date Printed: Saturday, January 31, 2015

ICP Metals

Method SW6010B Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1501055

Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - FBR Micronutrient Analysis - Water F

Field ID: SHARED QC
LabID: 1501024-1MS

Sample Matrix: WATER
% Moisture: N/A

Date Collected: 05-Jan-15

Date Extracted: 12-Jan-15

Date Analyzed: 13-Jan-15

Prep Batch: IP150112-4

QCBatchID: IP150112-4-1

Run ID: IP150113-2A6

Cleanup: NONE

Basis: As Received

Date Analyzed: 13-Jan-15
Prep Method: SW3005 Rev A

Sample Aliquot: 50 ml Final Volume: 50 ml Result Units: UG/L

File Name:

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-42-8	BORON	37		1020		30	1000	98	80 - 120%
7440-70-2	CALCIUM	55000		89400		1000	40000	85	80 - 120%
7439-89-6	IRON	18	U	990		50	1000	99	80 - 120%
7439-95-4	MAGNESIUM	19000		55500		750	40000	90	80 - 120%
7723-14-0	PHOSPHORUS	19	В	9570		50	10000	95	80 - 120%

Field ID: SHARED QC
LabID: 1501024-1MSD

Sample Matrix: WATER % Moisture: N/A Date Collected: 05-Jan-15

Date Extracted: 12-Jan-15 Date Analyzed: 13-Jan-15

Prep Method: SW3005 Rev A

Prep Batch: IP150112-4 QCBatchID: IP150112-4-1 Run ID: IP150113-2A6 Cleanup: NONE

eanup: NONE Fi Basis: As Received

Sample Aliquot: 50 ml Final Volume: 50 ml Result Units: UG/L File Name:

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-42-8	BORON	1060		1000	102	30	20	4
7440-70-2	CALCIUM	92000		40000	92	1000	20	3
7439-89-6	IRON	1010		1000	101	50	20	2
7439-95-4	MAGNESIUM	57200		40000	94	750	20	3
7723-14-0	PHOSPHORUS	9930		10000	99	50	20	4

Data Package ID: ip1501055-1

ICPMS Metals

Method SW6020A **Method Blank**

Lab Name: ALS Environmental -- FC

Work Order Number: 1501055

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - FBR Micronutrient Analysis - Water F13-0

Lab ID: IP150120-2MB

Sample Matrix: WATER % Moisture: N/A Date Collected: N/A

Date Extracted: 20-Jan-15 Date Analyzed: 25-Jan-15 **Prep Batch:** IP150120-2 Sample Aliquot: 50 ml QCBatchID: IP150120-2-1 **Final Volume:** 50 ml Run ID: IM150125-11A4 Result Units: UG/L Cleanup: NONE Clean DF:

Basis: N/A File Name: 022SMPL_

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	17	50	17	U	
7440-38-2	ARSENIC	10	0.25	2	0.25	U	
7440-47-3	CHROMIUM	10	1.3	10	1.3	U	
7440-48-4	COBALT	10	0.17	1	0.17	U	
7440-50-8	COPPER	10	2.8	8	2.8	U	
7439-96-5	MANGANESE	10	0.52	5	0.52	U	
7439-98-7	MOLYBDENUM	10	0.43	1	0.43	U	
7440-02-0	NICKEL	10	1.4	5	1.4	U	
7782-49-2	SELENIUM	10	0.54	1	0.54	U	
7440-24-6	STRONTIUM	10	0.32	1	0.32	U	
7440-66-6	ZINC	10	-14	20	6.8	В	

Data Package ID: im1501055-1

Date Printed: Saturday, January 31, 2015

ALS Environmental -- FC LIMS Version: 6.740

ICPMS Metals

Method SW6020A Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1501055

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200W Pump & Treat - FBR Micronutrient Analysis - Water F13-0

Lab ID: IP150120-2LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A

Date Extracted: 01/20/2015 Date Analyzed: 01/25/2015 Prep Method: SW3005A Prep Batch: IP150120-2 QCBatchID: IP150120-2-1

Run ID: IM150125-11A4 Cleanup: NONE Basis: N/A File Name: 024SMPL_ Sample Aliquot: 50 ml Final Volume: 50 ml Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7429-90-5	ALUMINUM	5000	5030	50		101	80 - 120%
7440-38-2	ARSENIC	100	97.1	2		97	80 - 120%
7440-47-3	CHROMIUM	500	479	10		96	80 - 120%
7440-48-4	COBALT	100	98.5	1		99	80 - 120%
7440-50-8	COPPER	1000	1040	8		104	80 - 120%
7439-96-5	MANGANESE	100	94.7	5		95	80 - 120%
7439-98-7	MOLYBDENUM	100	95.1	1		95	80 - 120%
7440-02-0	NICKEL	500	478	5		96	80 - 120%
7782-49-2	SELENIUM	100	93.7	1		94	80 - 120%
7440-24-6	STRONTIUM	100	96.4	1		96	80 - 120%
7440-66-6	ZINC	2000	2010	20		100	80 - 120%

Data Package ID: im1501055-1

Date Printed: Saturday, January 31, 2015 ALS Environmental -- FC

ICPMS Metals

Method SW6020A Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1501055

Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - FBR Micronutrient Analysis - Water F

Field ID: B304R6
LabID: 1501055-1MS

Sample Matrix: WATER % Moisture: N/A Date Collected: 05-Jan-15 Date Extracted: 20-Jan-15

Date Analyzed: 26-Jan-15 Prep Method: SW 3005 Rev A Prep Batch: IP150120-2 QCBatchID: IP150120-2-1 Run ID: IM150126-10A3

> Cleanup: NONE Basis: As Received

Sample Aliquot: 50 ml Final Volume: 50 ml Result Units: UG/L File Name: 020SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7429-90-5	ALUMINUM	43	В	4910		50	5000	97	75 - 125%
7440-38-2	ARSENIC	0.3	В	97.8		2	100	97	75 - 125%
7440-47-3	CHROMIUM	3.7	В	487		10	500	97	75 - 125%
7440-48-4	COBALT	1.8		100		1	100	99	75 - 125%
7440-50-8	COPPER	5.9	В	1050		8	1000	104	75 - 125%
7439-96-5	MANGANESE	8.5		103		5	100	95	75 - 125%
7439-98-7	MOLYBDENUM	26		123		1	100	98	75 - 125%
7440-02-0	NICKEL	3.9	В	487		5	500	97	75 - 125%
7782-49-2	SELENIUM	2.3		99.7		1	100	97	75 - 125%
7440-24-6	STRONTIUM	220		322		1	100	101	75 - 125%
7440-66-6	ZINC	6.8	U	1980		20	2000	99	75 - 125%

Data Package ID: im1501055-1

Date Printed: Saturday, January 31, 2015 ALS Environmental -- FC

ICPMS Metals

Method SW6020A Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1501055

Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 200W Pump & Treat - FBR Micronutrient Analysis - Water F

Field ID: B304R6

LabID: 1501055-1MSD

Sample Matrix: WATER % Moisture: N/A Date Collected: 05-Jan-15 Date Extracted: 20-Jan-15

Date Analyzed: 26-Jan-15 Prep Method: SW 3005 Rev A Prep Batch: IP150120-2 QCBatchID: IP150120-2-1 Run ID: IM150126-10A3

> Cleanup: NONE Basis: As Received

Sample Aliquot: 50 ml Final Volume: 50 ml

Result Units: UG/L File Name: 021SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7429-90-5	ALUMINUM	5320		5000	105	50	20	8
7440-38-2	ARSENIC	102		100	102	2	20	5
7440-47-3	CHROMIUM	504		500	100	10	20	3
7440-48-4	COBALT	104		100	103	1	20	4
7440-50-8	COPPER	1110		1000	110	8	20	6
7439-96-5	MANGANESE	108		100	99	5	20	4
7439-98-7	MOLYBDENUM	127		100	102	1	20	3
7440-02-0	NICKEL	518		500	103	5	20	6
7782-49-2	SELENIUM	107		100	105	1	20	7
7440-24-6	STRONTIUM	325		100	104	1	20	1
7440-66-6	ZINC	2070		2000	104	20	20	4

Data Package ID: im1501055-1